



Analytical Laboratory

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13339 Hagers Ferry Road
Huntersville, NC 28078-7929
McGuire Nuclear Complex - MG03A2
Phone: 980-875-5245 Fax: 980-875-4349

Order Summary Report

Order Number: J11060301

Project Name: WWTS - Biweekly

Customer Name(s): Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson

Customer Address: 3195 Pine Hall Rd
Mailcode: Belews Steam Station
Belews Creek, NC 28012

Lab Contact: Jason C Perkins Phone: 980-875-5348

Report Authorized By: _____ **Date:** 7/5/2011
(Signature)

Program Comments:

Data Flags & Calculations:

Any analytical tests or individual analytes within a test flagged with an "X" or "1" indicate a deviation from the method quality system or quality control requirement. All results are reported on a dry weight basis unless otherwise noted.

Data Package:

This data package includes analytical results that are applicable only to the samples described in this narrative. An estimation of the uncertainty of measurement for the results in the report is available upon request. This report shall not be reproduced, except in full, without the written consent of the Analytical Laboratory. Please contact the Analytical laboratory with any questions. The order of individual sections within this report is as follows:

Job Summary Report, Sample Identification, Technical Validation of Data Package, Analytical Laboratory Certificate of Analysis, Analytical Laboratory QC Reports, Sub-contracted Laboratory Results, Customer Specific Data Sheets, Reports & Documentation, Customer Database Entries, Test Case Narratives, Chain of Custody (COC)

Certification:

The Analytical Laboratory holds the following State Certifications : North Carolina (DENR) Certificate #248, South Carolina (DHEC) Laboratory ID # 99005. Contact the Analytical Laboratory for definitive information about the certification status of specific methods.

Sample ID's & Descriptions:

Sample ID	Plant/Station	Collection Date and Time	Collected By	Sample Description
2011013305	BELEWS	22-Jun-11 9:35 AM	W. B. WORKMAN	FGD Purge Eff
2011013309	BELEWS	22-Jun-11 9:40 AM	W. B. WORKMAN	EQ TANK EFF.
2011013310	BELEWS	22-Jun-11 9:45 AM	W. B. WORKMAN	BIOREACTOR 1 INF.
2011013311	BELEWS	22-Jun-11 9:50 AM	W. B. WORKMAN	BIOREACTOR 2 INF.
2011013312	BELEWS	22-Jun-11 9:55 AM	W. B. WORKMAN	BIOREACTOR 2 EFF.
2011013313	BELEWS	14-Jun-11 10:00 AM	S.S.	Trip Blank
2011013314	BELEWS	22-Jun-11 9:30 AM	W. B. WORKMAN	FILTER BLANK
7 Total Samples				

Technical Validation Review

Checklist:

COC and .pdf report are in agreement with sample totals and analyses (compliance programs and procedures).

☒ Yes

☐ No

All Results are less than the laboratory reporting limits.

☐ Yes

☒ No

All laboratory QA/QC requirements are acceptable.

☒ Yes

☐ No

The Vendor Laboratories have been qualified by the Analytical Laboratory

Yes

Report Sections Included:

☒ Job Summary Report

☒ Sample Identification

☒ Technical Validation of Data Package

☒ Analytical Laboratory Certificate of Analysis

☐ Analytical Laboratory QC Report

☒ Sub-contracted Laboratory Results

☐ Customer Specific Data Sheets, Reports, & Documentation

☐ Customer Database Entries

☐ Test Case Narratives

☒ Chain of Custody

☐ Electronic Data Deliverable (EDD) Sent Separately

Reviewed By: DataBase Administrator

Date: 7/5/2011

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J11060301

Site: FGD Purge Eff

Collection Date: 22-Jun-11 9:35 AM

Sample #: 2011013305

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	208	ug/L		5	EPA 245.1	24-Jun-11 14:15	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	142	mg/L		0.5	EPA 200.7	27-Jun-11 12:43	DJSULL1
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	242	ug/L		10	EPA 200.8	28-Jun-11 12:11	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	229	ug/L		10	EPA 200.8	27-Jun-11 15:12	KRICHAR
Chromium (Cr)	188	ug/L		10	EPA 200.8	27-Jun-11 15:12	KRICHAR
Copper (Cu)	147	ug/L		10	EPA 200.8	27-Jun-11 15:12	KRICHAR
Nickel (Ni)	175	ug/L		10	EPA 200.8	27-Jun-11 15:12	KRICHAR
Selenium (Se)	4930	ug/L		10	EPA 200.8	27-Jun-11 15:12	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	27-Jun-11 15:12	KRICHAR
Zinc (Zn)	271	ug/L		20	EPA 200.8	27-Jun-11 15:12	KRICHAR
<u>SELENIUM SPECIATION</u>							
Vendor Parameter	Complete				V_AS&C		
<u>TOTAL DISSOLVED SOLIDS</u>							
TDS	17000	mg/L		200	SM2540C	23-Jun-11 16:00	TJA7067

Site: EQ TANK EFF.

Collection Date: 22-Jun-11 9:40 AM

Sample #: 2011013309

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	150	ug/L		2.5	EPA 245.1	24-Jun-11 14:17	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	132	mg/L		0.5	EPA 200.7	27-Jun-11 12:47	DJSULL1
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	158	ug/L		10	EPA 200.8	28-Jun-11 10:46	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	165	ug/L		10	EPA 200.8	27-Jun-11 15:07	KRICHAR
Chromium (Cr)	141	ug/L		10	EPA 200.8	27-Jun-11 15:07	KRICHAR
Copper (Cu)	109	ug/L		10	EPA 200.8	27-Jun-11 15:07	KRICHAR
Nickel (Ni)	137	ug/L		10	EPA 200.8	27-Jun-11 15:07	KRICHAR

Certificate of Laboratory Analysis

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Order # J11060301

Site: EQ TANK EFF.

Collection Date: 22-Jun-11 9:40 AM

Sample #: 2011013309

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
TOTAL RECOVERABLE METALS BY ICP-MS							
Selenium (Se)	3830	ug/L		10	EPA 200.8	27-Jun-11 15:07	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	27-Jun-11 15:07	KRICHAR
Zinc (Zn)	208	ug/L		20	EPA 200.8	27-Jun-11 15:07	KRICHAR

Site: BIOREACTOR 1 INF.

Collection Date: 22-Jun-11 9:45 AM

Sample #: 2011013310

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
TOTAL RECOVERABLE METALS BY ICP							
Boron (B)	128	mg/L		0.5	EPA 200.7	27-Jun-11 12:51	DJSULL1
DISSOLVED METALS BY ICP-MS							
Selenium (Se)	140	ug/L		10	EPA 200.8	28-Jun-11 10:30	KRICHAR
TOTAL RECOVERABLE METALS BY ICP-MS							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	27-Jun-11 15:02	KRICHAR
Chromium (Cr)	< 10	ug/L		10	EPA 200.8	27-Jun-11 15:02	KRICHAR
Copper (Cu)	< 10	ug/L		10	EPA 200.8	27-Jun-11 15:02	KRICHAR
Nickel (Ni)	12.0	ug/L		10	EPA 200.8	27-Jun-11 15:02	KRICHAR
Selenium (Se)	152	ug/L		10	EPA 200.8	27-Jun-11 15:02	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	27-Jun-11 15:02	KRICHAR
Zinc (Zn)	< 20	ug/L		20	EPA 200.8	27-Jun-11 15:02	KRICHAR
SELENIUM SPECIATION							
Vendor Parameter	Complete				V_AS&C		

Site: BIOREACTOR 2 INF.

Collection Date: 22-Jun-11 9:50 AM

Sample #: 2011013311

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
TOTAL RECOVERABLE METALS BY ICP							
Boron (B)	125	mg/L		0.5	EPA 200.7	27-Jun-11 12:55	DJSULL1
TOTAL RECOVERABLE METALS BY ICP-MS							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	27-Jun-11 14:57	KRICHAR
Chromium (Cr)	< 10	ug/L		10	EPA 200.8	27-Jun-11 14:57	KRICHAR
Copper (Cu)	< 10	ug/L		10	EPA 200.8	27-Jun-11 14:57	KRICHAR
Nickel (Ni)	< 10	ug/L		10	EPA 200.8	27-Jun-11 14:57	KRICHAR
Selenium (Se)	< 10	ug/L		10	EPA 200.8	27-Jun-11 14:57	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	27-Jun-11 14:57	KRICHAR
Zinc (Zn)	< 20	ug/L		20	EPA 200.8	27-Jun-11 14:57	KRICHAR

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Order # J11060301

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
DISSOLVED METALS BY ICP-MS							

Certificate of Laboratory Analysis

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This report shall not be reproduced, except in full.

Order # J11060301

Site: FILTER BLANK

Collection Date: 22-Jun-11 9:30 AM

Sample #: 2011013314

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	< 2	ug/L		2	EPA 200.8	28-Jun-11 10:13	KRICHAR



**APPLIED SPECIATION
AND CONSULTING, LLC**

18804 Northcreek Parkway Bothell, WA, 98011
Tel: (425) 483-3300 Fax: (425) 483-9818
www.appliedspeciation.com

July 4, 2011

Jay Perkins
Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd.
Huntersville, NC 28078
(704) 875-5245

Project: Belews - FGD (WWTS Bi-Monthly Sampling) (LIMS # J11060301)

Dear Mr. Perkins,

Attached is the report associated with four (4) aqueous samples submitted for selenium speciation analysis on June 23, 2011. The samples were received in a sealed cooler at -0.3°C on June 24, 2011. Selenium speciation analysis was performed via ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Any issues associated with the analysis are addressed in the following report.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

A handwritten signature in black ink that reads "Ben Wozniak".

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Applied Speciation and Consulting, LLC

Report prepared for:

Jay Perkins
Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd.
Huntersville, NC 28078

Project: Belews - FGD (WWTS Bi-Monthly Sampling) (LIMS # J11060301)

July 4, 2011

1. Sample Reception

Four (4) aqueous samples in 125mL HDPE bottles (provided by Applied Speciation and Consulting) were submitted for selenium speciation analysis on June 23, 2011. The samples were received on June 24, 2011 in a sealed container at -0.3°C.

The samples were received in a laminar flow clean hood void of trace metals contamination and ultra-violet radiation. Upon reception, the samples were designated discrete sample identifiers. An aliquot of each sample was filtered (0.45µm) and these filtrates were stored in a secure, monitored cryofreezer (maintained at a temperature of -80°C) until selenium speciation analysis could be performed via ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS).

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are monitored for contamination to account for any biases associated with the sample results.

Selenium Speciation Analysis by IC-ICP-DRC-MS Prior to analysis, an aliquot of each sample was filtered with a syringe filter (0.45µm) and injected directly into a sealed autosampler vial. No further sample preparation was performed as any chemical alteration of the samples may shift the equilibrium of the system resulting in changes in speciation ratios.

3. Sample Analysis

All sample analysis is preceded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. Calibration curves are performed at the beginning of

each analytical day. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases associated with the analytical platform.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimal interval of every ten analytical runs.

Selenium Speciation Analysis by IC-ICP-DRC-MS All samples for selenium speciation analysis were analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS) on June 24, 2011. An aliquot of each sample is injected onto an anion exchange column and mobilized by a basic ($\text{pH} > 7$) gradient. The eluting selenium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge ratios (m/z). A solid-state detector detects ions transmitted through the mass analyzer and the resulting current is processed by a data handling system.

Retention times for each eluting species are compared to known standards for species identification.

4. Analytical Issues

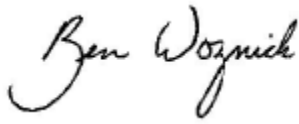
The overall analyses went very well and no significant analytical issues were encountered. All sample results have been corrected in accordance with the continuing calibration verification recoveries to account for perceived instrument bias. All quality control parameters associated with these samples were within acceptance limits.

The estimated method detection limits (eMDLs) for selenite, selenate, and selenocyanate are generated from replicate analyses of the lowest standard in the calibration curve. Not all selenium species are present in preparation blanks; therefore, eMDL calculations based on preparation blanks are artificially biased low.

The eMDL for methylseleninic acid and selenomethionine is calculated from the average eMDL of selenite, selenate, and selenocyanate. The calibration does not contain methylseleninic acid or selenomethionine due to impurities in these standards which would bias the results for other selenium species.

If you have any questions or concerns regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Ben Wozniak". The signature is written in a cursive, flowing style.

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Selenium Speciation Results for Duke Energy
 Project Name: Belews - FGD (WWTS Bi-Monthly Sampling)
 Contact: Jay Perkins
 LIMS #J11060301

Date: July 4, 2011
 Report Generated by: Ben Wozniak
 Applied Speciation and Consulting, LLC

Sample Results

Sample ID	Se(IV)	Se(VI)	SeCN	MeSe(IV)	SeMe	Unknown Se Species (n)
FGD Purge Eff	162	115	ND (<3.1)	ND (<3.0)	ND (<3.0)	0 (0)
BioReactor 1 Inf	46.4	87.5	ND (<0.78)	4.31	ND (<0.75)	0 (0)
BioReactor 2 Eff	ND (<0.58)	ND (<0.88)	ND (<0.78)	ND (<0.75)	ND (<0.75)	0 (0)
Metals Trip Blk	ND (<0.12)	ND (<0.18)	ND (<0.16)	ND (<0.15)	ND (<0.15)	0 (0)

All results reflect the applied dilution and are reported in µg/L

ND = Not detected at the applied dilution

SeCN = Selenocyanate

MeSe(IV) = Methylseleninic acid

SeMe = Selenomethionine

Unknown Se Species = Total concentration of all unknown Se species observed by IC-ICP-MS

n = number of unknown Se species observed

Selenium Speciation Results for Duke Energy
 Project Name: Belews - FGD (WWTS Bi-Monthly Sampling)
 Contact: Jay Perkins
 LIMS #J11060301

Date: July 4, 2011
 Report Generated by: Ben Wozniak
 Applied Speciation and Consulting, LLC

Quality Control Summary - Preparation Blank Summary

Analyte (µg/L)	PBW1	PBW2	PBW3	PBW4	Mean	StdDev	eMDL *	eMDL 10x	eMDL 50x	eMDL 200x
Se(IV)	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.12	0.58	2.3
Se(VI)	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.18	0.88	3.5
SeCN	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.16	0.78	3.1
MeSe(IV)	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.15	0.75	3.0
SeMe	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.15	0.75	3.0

eMDL = Estimated Method Detection Limit

*Please see narrative regarding eMDL calculations

Quality Control Summary - Certified Reference Materials

Analyte (µg/L)	CRM	True Value	Result	Recovery
Se(IV)	LCS	9.57	10.10	105.6
Se(VI)	LCS	9.48	9.524	100.5
SeCN	LCS	8.92	9.223	103.4
MeSe(IV)	LCS	6.47	7.730	119.5
SeMe	LCS	9.32	9.563	102.6

Selenium Speciation Results for Duke Energy
 Project Name: Belews - FGD (WWTS Bi-Monthly Sampling)
 Contact: Jay Perkins
 LIMS #J11060301

Date: July 4, 2011
 Report Generated by: Ben Wozniak
 Applied Speciation and Consulting, LLC

Quality Control Summary - Matrix Duplicates

Analyte (µg/L)	Sample ID	Rep 1	Rep 2	Mean	RPD
Se(IV)	FGD Purge Eff	162.0	159.5	160.8	1.6
Se(VI)	FGD Purge Eff	114.5	104.4	109.5	9.3
SeCN	FGD Purge Eff	ND (<3.1)	ND (<3.1)	NC	NC
MeSe(IV)	FGD Purge Eff	ND (<3.0)	ND (<3.0)	NC	NC
SeMe	FGD Purge Eff	ND (<3.0)	ND (<3.0)	NC	NC

ND = Not detected at the applied dilution

NC = Value was not calculated due to one or more concentrations below the eMDL

Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate

Analyte (µg/L)	Sample ID	Spike Conc	MS Result	Recovery	Spike Conc	MSD Result	Recovery	RPD
Se(IV)	FGD Purge Eff	1112	1369	108.7	1112	1363	108.1	0.4
Se(VI)	FGD Purge Eff	1009	1063	94.5	1009	1111	99.3	4.5
SeCN	FGD Purge Eff	915.0	766.2	83.7	915.0	812.4	88.8	5.8

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

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Duke Energy Analytical Laboratory
 Mail Code MGO3A2 (Building 7405)
 13339 Hagers Ferry Rd
 Huntersville, N. C. 28078
 (704) 875-5245
 Fax: (704) 875-4349

Analytical Laboratory Use Only			
ORDER# J11060301	MATRIX: OTHER	Samples Originating From	NC SC
Logged By cpt	Date & Time 6-23-11 0853	SAMPLE PROGRAM Water _____ Ground NPDES Drinking Water UST RCRA Waste _____	
AS&C PO#133241		Cooler Temp (C) 1.4 Preserv.: 1=HCL 2=H ₂ SO ₄ 3=HNO ₃ 4=Ice 5=None	

¹⁹Page 1 of 2
DISTRIBUTION
 ORIGINAL to LAB,
 COPY to CLIENT

1) Project Name Belews - FGD (WWTs Bi-Monthly Sampling)		2) Phone No:
2) Client: Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson **		4) Fax No:
5) Business Unit:	6) Process:	Mail Code:
8) Oper. Unit:	9) Res. Type:	10) Reso. Center:

MR #
Customer to complete all appropriate non-shaded areas.

Sampling conducted: 2nd and 4th Wednesday

Se Speciation Bottle ID	¹³ Sample Description or ID	Date	Time	Signature	¹⁷ Comp.	¹⁸ Grab	TDS	Hg - 245.1	Metals*	Se, soluble (no dig.)**	Se, speciation - vendor to AS&C (Important to place filled bottle back into both baggies)
	FGD Purge Eff	6/22	9:35A	W. Workman			1	1	1	1	1
	EQ Tank Eff.	6/22	9:40A					1	1	1	
	BioReactor 1 Inf	6/22	9:45A						1	1	1
	BioReactor 2 Inf	6/22	9:50A						1		
	BioReactor 2 Eff	6/22	9:55A				1		1		1
14	(req) Filter Blk	6/22	9:30A							1	
	Metals Trip Blk	6-14	1000	cpt/yo					1		1
Filtering of the Se is performed in the field please provide a filter blank too.											
** send field coll. bottles for sol. Se											

Customer to sign & date below - fill out from left to right.

1) Relinquished By W. Workman	Date/Time 6/22/11 16:30 hrs.	2) Accepted By Corrigan	Date/Time 6/22/11 PM
3) Relinquished By Corrigan	Date/Time 6/23/11 0830	4) Accepted By T/A Symon	Date/Time 6/23/11 0830
5) Relinquished By cpt	Date/Time 6-23-11 1300	6) Accepted By Tyler	Date/Time 6/24/11 1130
7) Relinquished By	Date/Time	8) Accepted By	Date/Time
9) Seal/Locked By cpt/no	Date/Time 6-23-11	10) Seal/Lock Opened By No OFFICIAL SEAL	Date/Time
11) Seal/Locked By	Date/Time	12) Seal/Lock Opened By T: -0.3°C	Date/Time
Comments			

Customer, IMPORTANT!
 Please indicate desired turnaround.

²²Requested Turnaround

14 Days _____

7 Days
7-3-11

48 Hr _____

*Other _____
 * Add. Cost Will Apply

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Page 16 of 16



Duke Energy Analytical Laboratory

Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-4349

Analytical Laboratory Use Only

ORDER# J11060301	MATRIX: OTHER	Samples Originating From	NC SC
Logged By cpb	Date & Time 6-23-11	SAMPLE PROGRAM	Ground NPDES
		Water	Drinking Water
			UST
			RCRA Waste

¹⁹Page 1 of 2
DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

1)Project Name Belews - FGD (WWTS Bi-Monthly Sampling)	2)Phone No:
2) Client: Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson **	4)Fax No:
5)Business Unit:	6)Process:
8)Oper. Unit:	10)Reso. Center:
	Mail Code:

AS&C
PO#133241

Cooler Temp (C)

¹⁵Preserv.: 1=HCL
2=H₂SO₄ 3=HNO₃
4=Ice 5=None

MR #

Customer to complete all
appropriate non-shaded areas.

Sampling conducted: 2nd and 4th Wednesday

Se Speciation Bottle ID	¹³ Sample Description or ID	Date	Time	Signature	¹⁷ Comp.	¹⁸ Grab	TDS	Hg - 245.1	Metals*	Se, soluble (no dig.)**	Se, speciation - vendor to AS&C (Important to place filled bottle back into both baggies)
	FGD Purge Eff	6/22	9:35A	W. Workman			1	1	1	1	1
	EQ Tank Eff.	6/22	9:40A					1	1	1	
	BioReactor 1 Inf	6/22	9:45A						1	1	1
	BioReactor 2 Inf	6/22	9:50A						1		
	BioReactor 2 Eff	6/22	9:55A				1		1		1
	(lab supplies all blank H2O)										
14	(cpb) Filter Blk	6/22	9:30A							1	
	Metals Trip Blk	6-14	1000	cpb/20					1		1
Filtering of the Se is performed in the field please provide a filter blank too.											
** send field coll. bottles for sol. Se											

Customer to sign & date below - fill out from left to right.

1) Relinquished By W. Workman	Date/Time 6/22/11 15:30 hrs.	2) Accepted By Cowen	Date/Time 6/22/11 PM
3) Relinquished By Cowen	Date/Time 6/23/11 0830	4) Accepted By V. A. Symon	Date/Time 6/23/11 0830
5) Relinquished By cpb	Date/Time 6-23-11 1300	6) Accepted By:	Date/Time
7) Relinquished By	Date/Time	8) Accepted By:	Date/Time
9) Seal/Locked By cpb/na	Date/Time 6-23-11	10) Seal/Lock Opened By	Date/Time
11) Seal/Locked By	Date/Time	12) Seal/Lock Opened By	Date/Time

²²Requested Turnaround

14 Days _____

*7 Days _____

*48 Hr
7-3-11

*Other _____

* Add. Cost Will Apply

Customer, IMPORTANT!
Please indicate desired turnaround.

* B by ICP

As, Ag, Cu, Cr, Ni, Se, Zn by IMS

Digestions = TRM

thomas.dickson@dukeenergy.com